

REMARKS

This Amendment is in response to the Office Action dated January 14, 2009 ("OA"). In the Office Action, the specification, drawings and claim 6 were objected to, claims 32, 37 and 38 were rejected under 35 U.S.C. § 112, and claims 1-2, 5-15, 23 and 29-42 were rejected under 35 U.S.C. § 103. Currently pending claims 1-2, 5-15, 23 and 29-42 are believed allowable, with claims 1, 33 and 41 being independent claims.

REQUEST FOR EXAMINATION BY SUPERVISORY PATENT EXAMINER

The present application has been pending for over seven years without conclusion.

In the outstanding Office Action, independent claim 1 is newly rejected under 35 U.S.C. § 103 as unpatentable over Stubler in view of Toyama. The same rejection was made on July 8, 2005 and was successfully traversed by the Applicants on June 27, 2006. The Examiner now revisits the same rejection disposed of years ago without explanation.

For these reasons, the Applicants respectfully request the present application be carefully reviewed by a supervisory patent examiner for rapid termination of its prosecution. See MPEP 707.02. If any points remain at issue that the Examiner feels could best be resolved by a telephone interview, the Examiner is urged to contact the attorney below.

DRAWINGS OBJECTIONS

Figures 8-13 were objected to as not complying with 37 CFR 1.84. OA, pp. 5. By this Amendment, Figs. 8-13 are amended to

comply with 37 CFR 1.84. No new matter is introduced by amendments to Figs. 8-13.

SPECIFICATION OBJECTIONS

The specification of present application was objected to "as failing to provide proper antecedent basis for the claimed subject matter." The Examiner cites 37 CFR 1.75(d)(1) and MPEP 608.01(o) as authority for such objections.

The Applicants submit there is no statutory authority for the Examiner to object to the specification as "as failing to provide proper antecedent basis for the claimed subject matter." Rule 37 CFR 1.75(d)(1) and MPEP 608.01(o) concern the content of the claims, not the specification. For at least these reasons, the Examiner's objections to the specification are unwarranted.

CLAIM REJECTIONS UNDER 35 USC §112

Claim 32

Claim 32 stands rejected under 35 U.S.C 112 because "surveillance data" is allegedly not described in the specification in such a way as to reasonably convey to one skilled in the art that inventors, at the time the application was filed, had possession of the claimed invention.

The Applicants note that "surveillance data" was originally claimed in claims 6 and 21 of the application. Thus, the Applicants clearly had possession of the claimed invention at the time the application was filed.

Moreover, the Examiner provides no evidence that the knowledge and level of skill in the art would not permit one skilled in the art to immediately understand the subject matter

of claim 32. As shown in Exhibit A, "Video Surveillance and Monitoring" <http://www.cs.cmu.edu/~vsam/> (2000), the concept of surveillance data is well known to those skilled in the art. The Examiner does not provide any evidence to the contrary. Thus, the rejection of claim 32 under 35 U.S.C 112 is traversed as it is an unsupported conclusory statement contradicted by evidence submitted herein.

Claim 37

Claim 37 stands rejected under 35 U.S.C 112 because "cepstral coefficient" is allegedly not described in the specification in such a way as to reasonably convey to one skilled in the art that inventors, at the time the application was filed, had possession of the claimed invention.

The Applicants note that "cepstral coefficient" is described in the specification as originally filed at paragraph 0029. Thus, the Applicants clearly had possession of the claimed invention at the time the application was filed.

Moreover, the Examiner provides no evidence that the knowledge and level of skill in the art would not permit one skilled in the art to immediately understand the subject matter of claim 37. As noted by the Examiner, Tourneret et al., "Study of the Cepstral Coefficient Probability Density Function", IEEE (1992) teaches that cepstral coefficient is established and well known in the art. OA, pp. 37. Thus, the rejection of claim 37 under 35 U.S.C 112 is traversed as it is an unsupported conclusory statement contradicted by the Examiner's own finding of fact.

Claim 38

Claim 38 stands rejected under 35 U.S.C 112 because "zero crossing" is allegedly not described in the specification in

such a way as to reasonably convey to one skilled in the art that inventors, at the time the application was filed, had possession of the claimed invention.

The Applicants note that "cepstral coefficient" is described in the specification as originally filed at paragraph 0029. Thus, the Applicants clearly had possession of the claimed invention at the time the application was filed.

Moreover, the Examiner provides no evidence that the knowledge and level of skill in the art would not permit one skilled in the art to immediately understand the subject matter of claim 38. As noted by the Examiner, Marr et al., "Theory of Edge Detection", (1980) teaches a zero-crossing segment in a Gaussian filtered image consists of a linear segment L of zero-crossings in the second directional derivative operator whose direction lies perpendicular to L. OA, pp. 38. Thus, the rejection of claim 38 under 35 U.S.C 112 is traversed as it is an unsupported conclusory statement contradicted by the Examiner's own finding of fact.

CLAIM REJECTIONS UNDER 35 USC §103

Claim 1

Independent claim 1 was rejected under 35 U.S.C. § 103 as unpatentable over U.S. Patent No. 6,804,684 to Stubler et al. ("Stubler") in view of U.S. Patent No. 6,816,847 to Toyama ("Toyama"). A *prima facie* case for obviousness can only be made if the combined reference documents teach or suggest all the claim limitations. MPEP 2143. Furthermore, it is well settled that "rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support

the legal conclusion of obviousness." In re Kahn, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336, quoted with approval in KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007).

Before addressing the subject matter of the claims, a general discussion of the present invention, Stubler and Toyama may assist review of the pending application.

The present invention relates to efficient interactive annotation or labeling of multimedia content to facilitate effective searching, filtering and usage of content. App., pg. 1, ln. 4-6. In one embodiment of the invention, efficiency is realized by prompting a user to annotate only a small set of selected example content, with the results propagated to the annotation of a maximum number of other multimedia content. App., pg. 4, ln. 11-14, pg. 7, ln. 2-4. This causes the user to annotate as few examples as possible. App., pg. 5, ln. 7-8.

Stubler appears to relate to a method for associating captions with images in an image database environment. Stubler, col. 1, ln. 7-10. Briefly, the captioning technique of Stubler involves acquiring an image for evaluation with respect to stored images, automatically extracting metadata from the acquired image, automatically selecting one or more stored images having metadata similar to the extracted metadata, and generating one or more captions for the acquired image from preexisting captions associated with the selected stored images. Stubler, col. 3, ln. 15-32. Although Stubler discusses an optional feature for user verification of extended captioning or semantic labeling, there is no teaching of actively selecting examples of multimedia content to achieve the annotation of a maximum number of other multimedia content. Stubler, col. 8, ln. 40-55.

Toyama appears to relate to computerized aesthetic judgment of images. Toyama, col. 1, ln. 47-48. According to one embodiment of Toyama, a classifier is trained based on a set of training images, along with aesthetic scores assigned to the training images. Toyama, col. 5, ln. 15-19. The training images can be scored by professionals and/or laypeople. Toyama, col. 5, ln. 32-38. Once trained, the classifier can be used to provide aesthetic scores to input images, as well as provide recommendations to improve the aesthetic scores of the input images. Toyama, col. 1, ln. 65 - col. 2, ln. 4.

Claim 1 recites, in part, "wherein the examples of multimedia content are selected based on at least one criterion for achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected." As the Examiner correctly points out, Stubler does not disclose "wherein the examples of multimedia content are selected based on at least one criterion for achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected." OA, pp. 9. Nevertheless, the Office Action incorrectly argues that such disclosure is found in Toyama. The Office Action cites column 5, lines 15-65 of Toyama in support of its position.

As mentioned above, Toyama discloses a classifier that provides aesthetic scores to input images. The classifier is first trained with a set of training images. The citation offered by the Office Action makes no mention of selecting training images based on at least one criterion for achieving a maximal disambiguation result. Toyama states, "the images may include a set of web pages, a set of scanned-in pictures, a set of created pictures, a set of drawings, a set of page layouts, etc." Toyama, col. 5, ln. 21-23. Toyama also adds, "The set of

images in the training set desirably includes a wide variety of images, both those considered aesthetically pleasing, and those considered aesthetically poor." Toyama, col. 5, ln. 30-32. The Applicant respectfully submits that Toyama does not provide any instruction for selecting images based on at least one criterion for achieving a maximal disambiguation result, as recited in claim 1 of the present invention.

Claim 1 additionally recites, in part, "wherein the at least one criterion includes a confidence level of the selected examples, the confidence level being inversely proportional to a distance of a new feature of the selected examples from a separating hyperplane in an induced higher dimensional feature space." The Examiner correctly points out, Stubler does not disclose this limitation. OA, pp. 9. Nevertheless, the Office Action incorrectly argues that such disclosure is found in Toyama. The Office Action cites column 5, line 15 to column 7, line 19 of Toyama in support of this position.

As the Examiner notes, Toyama states, "For example, Support Vector Machines build classifiers by identifying a hyperplane that separates a set of positive and negative examples with a maximum margin. In the linear form of SVM that is employed in one embodiment, the margin is defined by the distance of the hyperplane to the nearest positive and negative cases for each class. Maximizing the margin can be express as an optimization problem and search and optimization thus lay at the core of different SVM-based training methods." Toyama, col. 6, ll. 19-27. Nowhere in Toyama is there a teaching or suggestion that an "at least one criterion includes a confidence level of the selected examples, the confidence level being inversely proportional to a distance of a new feature of the selected

examples from a separating hyperplane in an induced higher dimensional feature space."

The Examiner also notes that the present application states, "For SVM classifiers the distance of an unlabeled data-point from the separating hyperplane in the high dimensional feature space could be taken as a measure of uncertainty (alternatively, a measure of confidence in classification) of the data-point." Again, the Applicants respectfully submit this statement does not teach or suggest that an "at least one criterion includes a confidence level of the selected examples, the confidence level being inversely proportional to a distance of a new feature of the selected examples from a separating hyperplane in an induced higher dimensional feature space," as recited in claim 1.

The Examiner apparently concludes that an image with an excellent aesthetic score (as determined by professionals and/or laypeople) would have the greatest margin/distance of separation of the hyperplane and the least aesthetic image would have the least margin/distance of separation of the hyperplane. OA, pp. 10-11. It is clear that such an interpretation of the references is preposterous. The Examiner is clearly employing hindsight by using the Applicants' disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings in the prior art. See, e.g., Grain Processing Corp. v. American Maize-Products Co., 840 F.2d 902, 907, 5 USPQ2d 1788, 1792 (Fed.Cir. 1988).

The Office Action also argues, "It would have been obvious to one of ordinary skill in the art to combine Toyama and Stubler for the benefit of providing and correlating the score for images based on features of the image to make up a training set." However, as mentioned above, Stubler provides a method

for associating captions with images in an image database environment. Toyama discusses techniques for training a classifier to provide aesthetic scores for input images. The proposed combination of Stubler and Toyama fails because combining their teachings change the principle of operation of the references. As a result, the Examiner fails to meet the standard outlined in MPEP 2143.01 § VI that states, "if the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious."

For at least the reasons discussed above, the Applicant respectfully asserts that the Office Action has not established a *prima facie* case of obviousness for claim 1. As such, the rejection of claim 1 should be withdrawn. Moreover, the Applicant believes that claim 1 is patentable over the cited documents and earnestly requests an indication of allowability for claim 1.

Claims 2, 5-15, 23 and 29-32

Claims 2, 5-15, 23 and 29-32 are dependent on and further limit claim 1. Since claim 1 is allowable, claims 2, 5-15, 23 and 29-32 are also allowable for at least the same reasons as claim 1.

Claim 33

Similar to claim 1, independent claim 33 recites, in part, "wherein the examples of multimedia content are selected based on at least one criterion for achieving a maximal disambiguation result such that only those examples which are most ambiguous

are selected." As the Examiner correctly points out, Stubler does not disclose "wherein the examples of multimedia content are selected based on at least one criterion for achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected." OA, pp. 21. Nevertheless, the Office Action incorrectly argues that such disclosure is found in Toyama. The Office Action cites column 5, lines 15-65 of Toyama in support of its position.

As mentioned above, Toyama discloses a classifier that provides aesthetic scores to input images. The classifier is first trained with a set of training images. The citation offered by the Office Action makes no mention of selecting training images based on at least one criterion for achieving a maximal disambiguation result. Toyama states, "the images may include a set of web pages, a set of scanned-in pictures, a set of created pictures, a set of drawings, a set of page layouts, etc." Toyama, col. 5, ln. 21-23. Toyama also adds, "The set of images in the training set desirably includes a wide variety of images, both those considered aesthetically pleasing, and those considered aesthetically poor." Toyama, col. 5, ln. 30-32. The Applicant respectfully submits that Toyama does not provide any instruction for selecting images based on at least one criterion for achieving a maximal disambiguation result, as recited in claim 33 of the present invention.

Claim 33 additionally recites, in part, "using said input annotations as training data to update the model." The Office Action correctly points out that neither Stubler nor Toyama disclose such features. OA, pp. 22. However, the Examiner incorrectly alleges that Lipson teaches this limitation at column 13, lines 2-7.

Lipson discloses, "The class model generated in step 58 may be used to detect new images in the same class from a database or other repository of images. The performance of the model may be evaluated by the images it detects. A user of the system may want to refine the model or accentuate or de-accentuate certain features of the model." Lipson, col. 13, ll. 2-7. The Applicants submit there is no teaching in the cited passage or elsewhere in Lipson as using input annotations as training data to update the model. Lipson merely discloses that a user of the system may want to refine the model or accentuate or de-accentuate certain features of the model.

For at least the reasons discussed above, the Applicant respectfully asserts that the Office Action has not established a *prima facie* case of obviousness for claim 33. As such, the rejection of claim 33 should be withdrawn. Moreover, the Applicant believes that claim 33 is patentable over the cited documents and earnestly requests an indication of allowability for claim 33.

Claims 34-40

Claims 34-40 are dependent on and further limit claim 33. Since claim 33 is allowable, claims 34-40 are also allowable for at least the same reasons as claim 33.

Claim 41

Claim 41 recites, in part, "wherein the examples of multimedia content are selected based on at least one criterion for achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected." As the Examiner correctly points out, Stubler does not disclose

"wherein the examples of multimedia content are selected based on at least one criterion for achieving a maximal disambiguation result such that only those examples which are most ambiguous are selected." OA, pp. 21. Nevertheless, the Office Action incorrectly argues that such disclosure is found in Toyama. The Office Action cites column 5, lines 15-65 of Toyama in support of its position.

As mentioned above, Toyama discloses a classifier that provides aesthetic scores to input images. The classifier is first trained with a set of training images. The citation offered by the Office Action makes no mention of selecting training images based on at least one criterion for achieving a maximal disambiguation result. Toyama states, "the images may include a set of web pages, a set of scanned-in pictures, a set of created pictures, a set of drawings, a set of page layouts, etc." Toyama, col. 5, ln. 21-23. Toyama also adds, "The set of images in the training set desirably includes a wide variety of images, both those considered aesthetically pleasing, and those considered aesthetically poor." Toyama, col. 5, ln. 30-32. The Applicant respectfully submits that Toyama does not provide any instruction for selecting images based on at least one criterion for achieving a maximal disambiguation result, as recited in claim 41 of the present invention.

Claim 41 additionally recites, in part, "accepting input annotations from said user for said selected examples, wherein a rectangular region of an image is associated with at least one of said input annotations." The Office Action correctly points out that neither Stubler nor Toyama disclose such features. OA, pp. 22. However, the Examiner incorrectly alleges that Lipson teaches this limitation at column 10, line 5 to column 11, line

17, column 14, lines 44 to column 15, line 27, column 17, lines 47-61, column 21, lines 3-23 and Figures 4-10. OA, pp. 30.

The Applicants respectfully submit that nowhere in Lipson, including the passages and figures specifically cited by the Examiner, is there is teaching of a rectangular region of an image associated with at least one of input annotations.

To the contrary, Lipson discloses, "By identifying image properties and expressing the properties as a plurality of relative relationships, the present invention performs image classification and identification based on a global organization of features and relationships in an image." Lipson, col. 8, ll. 17-21 (emphasis added). Thus, image classification in Lipson is based on the entire image rather than a region of the image.

For at least the reasons discussed above, the Applicant respectfully asserts that the Office Action has not established a *prima facie* case of obviousness for claim 41. As such, the rejection of claim 41 should be withdrawn. Moreover, the Applicant believes that claim 41 is patentable over the cited documents and earnestly requests an indication of allowability for claim 41.

Claim 42

Claim 42 is dependent on and further limits claim 41. Since claim 41 is allowable, claim 42 is also allowable for at least the same reasons as claim 41.

CONCLUSION

In view of the forgoing remarks, it is respectfully submitted that this case is now in condition for allowance and

such action is respectfully requested. If any points remain at issue that the Examiner feels could best be resolved by a telephone interview, the Examiner is urged to contact the attorney below.

No fee is believed due with this Amendment, however, should such a fee be required please charge Deposit Account 50-0510 the required fee. Should any extensions of time be required, please consider this a petition thereof and charge Deposit Account 50-0510 the required fee.

Dated: April 10, 2009

Respectfully submitted,

/ido tuchman/
Ido Tuchman, Reg. No. 45,924
Law Office of Ido Tuchman
82-70 Beverly Road
Kew Gardens, NY 11415
Telephone (718) 544-1110
Facsimile (718) 374-6092